	National Institute of Technology Meghalaya An Institute of National Importance	CURRICULUM

Programme	**Bachelor of Technology**	Year of Regulation	**2018**
Department	**Electrical Engineering**	Semester	**I/II**

Course Code	Course Name	Credit Structure				Marks Distribution	
		L	T	P	C	Continuous Evaluation	Total
EE 151	**Basic Electrical Lab**	**0**	**0**	**2**	**1**	**100**	**100**

Course Objectives	To understand basic circuit theorems and laws	Course Outcomes	CO1: Verify the application of circuit theorems CO2: Measure voltage, current, power, power factor etc of different circuits like fluroscent, RLC series, RLC parallel CO3: Calculate circuit parameters from measured values for a choke coil and transformer
	To develop the skills to analyze the basic DC/AC system		CO4: Measure power in three phase circuits, verify star delta connection

No.	COs	Mapping with Program Outcomes (POs)												Mapping with PSOs		
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	CO1	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**			
2	CO2	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**			
3	CO3	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**			
4	CO4	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**			
5	CO5	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**			
6	CO6	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**			

SYLLABUS

No.	Content	Hours	COs
I	To study and verify the Kirchhoff's Voltage Law and Kirchhoff's Current Law applied to D.C. circuit.	02	CO1
II	To study and verify the Maximum Power Transfer Theorem.	02	CO1
III	To study and measure the inductance of choke coil.	02	CO3
IV	To study and obtain the *v-i* characteristics of a Fluorescent Lamp.	02	CO2
V	To study and perform amplitude, frequency and phase measurements using calibrated cathode ray oscilloscope.	02	CO2
VI	To study the R-L-C series circuit, it is connected to an AC supply and the voltage, current, power are consumed. The relations to be verified by drawing the phasor diagram.	02	CO2
VII	To study the R-L-C Parallel circuit,and the relations of currents and voltages in different branches .The relations to be verified by drawing the phasor diagram.	02	CO2
VIII	To determine equivalent circuit parameters, efficiency and regulation of a single phase transformer by conducting OC and SC tests.	02	CO3
IX	Verify the relation of phase and line value of voltage and current in 3 Phase Star and Delta balanced connection.	02	CO4
X	Measuremnt and verification of 3-ϕ power in star and delta connection.	02	CO4
	Total Hours	**20**	

Supplementary Readings

1. W.H. Hayt, J.E. Kemmerley, "Engineering circuit analysis", Int. St. Ed. McGraw Hill.

2. John Bird, "Electrical Circuit Theory and Technology", Routledge, Taylor & Francis Group.

3. V.N Mittle, "Basic Electrical Engineering", Tata McGraw Hill, 2nd edition 2017.